

Retrograde Extrapolation of Alcohol Concentrations

Date _____

Defendant _____

Case # _____

Average elimination rate 0.0165 BrAC or BAC per hour

1. Determine the time elapsed from earlier event (crash, test, etc.) to later event.
2. Convert hours and minutes to decimals.
3. Multiply time lapse by average elimination rate of 0.0165 AC per hour.
4. The result will show the decrease in AC between the two time points.
5. Add this value to the later AC measurement to show the AC at the earlier time point.

Example: elapsed time = 1 hour and 30 minutes = 1.5 hours

 1.5 hours multiplied by 0.0165 AC per hour = 0.0247 AC

 original AC = 0.064 + 0.0247 = 0.088 = 0.08 truncated

Reported AC 0. _____

Time of earlier event _____ (crash, vehicle stop, test, blood draw)

Time of later event _____ (test)

Elapsed time _____ hours _____ minutes = _____ hours

_____ hours X 0.0165 AC = AC loss of 0. _____

Reported AC 0. _____ + AC loss of 0. _____ = Original AC 0. _____

Truncated value = 0. _____

North Carolina citations: State v. Catoe 78 N.C. App 167 (1985), State v. Davis 142 N.C. App 81 (2001), State v. Taylor 165 N.C. App 750 (2004), State v Wood 174 N.C. App 790 (2005), State v Fuller 176 N.C. App 104 (2006), State v. Teate 638 S.E. 2d 29 - N.C. App. Filed (12/19/06)

Forensic Tests for Alcohol
(919) 707-5250

Conversion of Plasma or Serum Alcohol to Whole Blood Alcohol (When hospital results are reported as milligrams)

Date _____

Defendant _____

Case # _____

Hospital value = _____ milligrams per deciliter of plasma

Average Conversion factor (Plasma to Whole Blood) = 1.18

Plasma value divided by Conversion Factor = Whole Blood value

Converted value = _____ milligrams per deciliter Whole Blood

OR

_____ grams per 100 milliliters Whole Blood

Truncated value = _____ grams per 100 milliliters Whole Blood

Example:

213 mg/dl (plasma) divided by 1.18 = 180 mg/dl (whole blood)

180 mg/dl whole blood = 0.180 gm/dl or 0.180 gm/100 ml

Note:

100cc's = 1 deciliter = 100 milliliters

100 milligrams = 0.10 grams

Plasma value divided by Whole blood value = Conversion Factor. For these purposes Serum and Plasma are considered to be the same.

North Carolina citations: State v. Drdak , 330 N.C. 587 (1992), State v. Cardwell 133 N.C.App. 496 (1999)

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**Conversion of Plasma or Serum Alcohol to Whole Blood
Alcohol (Use when hospital results are reported as
grams or percent)**

Date _____

Defendant _____

Case # _____

Hospital value = _____ grams per deciliter of plasma

Average Conversion factor (Plasma to Whole Blood) = 1.18

Plasma value divided by Conversion Factor = Whole Blood value

Converted value = _____ grams per deciliter Whole Blood

OR

_____ grams per 100 milliliters Whole Blood

Truncated value = _____ grams per 100 milliliters Whole Blood

Example:

0.213 g/dl (plasma) divided by 1.18 = 0.180 g/dl (whole blood)

0.180 g/dl whole blood = 0.180 gm/100 ml whole blood

Note:

100cc's = 1 deciliter = 100 milliliters

100 milligrams = 0.10 grams

Plasma value divided by Whole blood value = Conversion Factor. For these purposes Serum and Plasma are considered to be the same.

North Carolina citations: State v. Drdak , 330 N.C. 587 (1992), State v. Cardwell
133 N.C. App. 496 (1999)

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**Conversion Medical Examiner's Whole Blood Alcohol
value of an SBI value (When ME's results are reported
as milligrams per dl or 100 ml)**

Date _____

Defendant _____

Case # _____

Medical Examiner value = _____ milligrams per deciliter of Whole blood

To convert move the decimal three places to the left.

Converted value = _____ milligrams per deciliter Whole Blood

Drop the third digit to comply with N.C.G.S.

Truncated value = _____ grams per 100 milliliters Whole Blood

Example:

213 mg/dl whole blood = 0.213 gm/dl or 0.213 gm/100 ml whole blood

30 mg/dl whole blood = 0.030 gm/dl or 0.030 gm/100 ml whole blood

Note:

100cc's = 1 deciliter = 100 milliliters

100 milligrams = 0.10 grams

Forensic Tests for Alcohol

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